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electd group II, claims 47-51

Please add the following claims.

44. A filamentous bacteriophage particle displaying on its surface as a fusion with a gene III coat protein surface component a member of a specific binding pair in functional form comprising a binding domain for complementary specific binding pair member, the particle containing a phagemid genome which is plasmid nucleic acid containing a single stranded phage replication origin and a nucleotide sequence encoding said fusion, and the particle having a coat partially derived from a helper phage and partly from said fusion.

45. A particle according to claim 44 wherein the displayed specific binding pair member comprises a binding domain of an immunoglobulin.

46. A particle according to claim 45 wherein the specific binding pair member is a scFv molecule.

47. A phagemid comprising a DNA encoding a single-chain antibody-coliphage pIII fusion protein, wherein the fusion protein contains a contiguous full length coliphage pIII protein.

48. The phagemide according to claim 47, wherein in the fusion protein contains a protease-sensitive region between the antibody and the coliphage pIII protein.

49. The phagemid according to either claim 47 or claim 48, wherein the phagemid comprises the genetic elements and DNA sequences (SEQ ID NOS: 7-17) of FIGS. 1(a)-1(c).

50. A process of producing the phagemid according to claim 47, comprising fusing a DNA encoding the single-chain antibody to a DNA encoding the contiguous full length coliphage pIII protein and inserting the resulting DNA into a phagemid vector.

51. The process according to claim 50, further comprising inserting a DNA encoding a protease-sensitive region between the DNA encoding the single-chain antibody and the DNA encoding the coliphage pIII protein.

52 A method of selecting antibodies from an antibody library, comprising screening said antibody library with an antigen, wherein said antibody library consists of phagemids according to either claim 47 or claim 48.

53. A method of presenting a peptide or protein at the surface of a phagemid viral particle, comprising producing said phagemid viral particle, wherein said phagemid viral particle comprises a DNA sequence encoding said peptide or protein fused to a DNA sequence encoding a contiguous full length coliphage pIII protein.

REMARKS

The substitute specification adds no new matter. Support for claim 44 is found throughout the specification which discloses and exemplifies *inter alia* methods for preparation and selection of binding proteins using phagemid display technology in combination with mutagenesis.

The new claims are related to phagemids and their use for creating a fusion protein comprising a specific binding pair member and gene III protein. Support for the claims is found at various places throughout the specification, for example, on page 15, lines 13-30 carrying over to page 16, lines 1-3; page 18, lines 1-22; and page 96, lines 6-14. (Page numbers refer to substitute specification). Claims 44-46 correspond to Group II as defined by the Examiner in a restriction requirement issued December 7, 1998 in the parent application, U.S. Serial No. 08/484,893 filed June 7, 1995. Claims 47-53 correspond to claims 1-7 in U.S. Patent No. 5,849,500.

Respectfully submitted,

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